

REMARKS

Claims 9-17 are currently pending in the present application, with claims 1-8 standing withdrawn pursuant to the Election/Restriction Requirement of October 22, 2004.

In accordance with the Examiner's helpful suggestions, the Applicants have amended Specification paragraph [0028] and claims 14-15 to address the pending objections.

The remaining remarks are directed to the rejections of claims 9-17.

1. The Claims Are Patentable Over Van Steenkiste, Ek, and/or Zverev.

Claims 9-12, and 16-17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,139,913 to Van Steenkiste, *et al.* ("Van Steenkiste"), in view of U.S. Patent No. 4,506,834 to Ek ("Ek"). Claims 13-15 stand rejected under § 103(a) as unpatentable over Van Steenkiste and Ek, in further view of U.S. Patent No. 4,004,735 to Zverev, *et al.* ("Zverev").

The Applicants respectfully traverse these rejections on the grounds that these reference fails to teach or suggest all the features of the present invention recited in claim 9 and its dependent claims 10-17.

Claim 9 recites a cold gas spraying system having a Laval nozzle, in which an outer nozzle body and a powder tube capable of feeding spraying particles into the outer nozzle body are provided, *with the powder tube ending in a divergent section of the Laval nozzle, aligned axially and centrally with the outer nozzle body.*

In the pending rejections, the Examiner has, in essence, taken a prior art cold-gas sprayer (with a particle tube outlet *upstream* of the Laval nozzle), and

asserted that it would have been obvious to move the particle tube outlet downstream into the divergent section of the nozzle. The Applicants respectfully submit that there is no teaching, suggestion or motivation to do so to be found in any of the cited references or in the knowledge in the art.

The Van Steenkiste reference is cited as teaching a cold gas spray system; this device, however, has its powder tube outlet well upstream of the nozzle. January 26, 2005 Office Action at 2-3; Van Steenkiste Fig. 2.

The Ek reference is cited as teaching locating a particle outlet in the divergent section of a nozzle. *Id.* at 3. In fact, Ek shows an outlet 13 located in the *neck* of the nozzle, *upstream* of the divergent section of the Ek nozzle (i.e., a classic venturi arrangement, where siphoned material is introduced at the lowest pressure/highest velocity portion of the flow). Thus, there is no suggestion in either reference to move the Van Steenkiste outlet into the divergent section of its nozzle to obtain claim 9's "powder tube ending in a divergent section of the Laval nozzle."

The Applicants further respectfully note that Ek is directed to breaking up of paper pulp fibers, which are orders of magnitude larger than the coating particles sprayed in the present invention. Accordingly, this reference teaches a nozzle sized and arranged to ensure introduction of the paper fibers at a location, direction and velocity which ensures the maximum disruptive forces are applied to the fibers. Ek's injection lateral injection of pulp into the stream in order to break up the pulp fibers therefore teaches away from the present invention's *non-destructive* coating particle injection. Thus, there is no suggestion or motivation to combine any aspect of the Ek reference's large particle break-up

design with Van Steenkiste's upstream outlet to attempt to obtain the present invention's controlled flow of far smaller powder particles.

In view of the foregoing, there is no teaching, suggestion or motivation to combine the Van Steenkiste and Ek references, and in any event, no combination of these references would result in the invention recited in claim 9 and its dependent claims 10-17.¹ Because none of the cited references, either alone or in combination, teaches or suggests all the features of the present invention recited in claims 9-17, these claims are patentable over these references under § 103(a).

Reconsideration and withdrawal of the pending § 103(a) rejections is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicants respectfully submit that claims 9-17 are in allowable form. Early and favorable consideration and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and

¹ For its part, the remaining Zverev reference, cited as teaching a concentric powder tube and outer nozzle, does not cure the deficiencies of Van Steenkiste and Ek, as its outlet is located upstream of its divergent nozzle, at the inlet to its nozzle neck section. See, e.g., Zverev Fig. 2.

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Respectfully submitted,



Donald D. Evenson

Registration No. 26,160

Mark H. Neblett

Registration No. 42,028

CROWELL & MORING, LLP
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844